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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,923	03/30/2004	Masaaki Hosouchi	520.43709X00	3159
24956	7590	04/20/2006	EXAMINER	
MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.			VO, THANH DUC	
1800 DIAGONAL ROAD			ART UNIT	
SUITE 370			PAPER NUMBER	
ALEXANDRIA, VA 22314			2189	

DATE MAILED: 04/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/811,923	HOSOUCI ET AL.	
	Examiner	Art Unit	
	Thanh D. Vo	2189	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/30/04, 5/31/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is responsive to the Application filed on March 30, 2004.

Claims 1-20 are presented for examination. Claims 1-20 are pending. The IDS filed on March 30, 2004 has been considered.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on May 31, 2005 was filed after the mailing date of the Application on March 30, 2004. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Priority

3. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/811923, filed on March 30, 2004.

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

4. The abstract of the disclosure is objected to because the abstract should be ranged from 50 to 150 words and should not exceed 15 lines of text. Correction is required. See MPEP § 608.01(b).

The abstract is further objected to because the term "roue" one page 47, line 14 should be written as – route.

5. The disclosure is objected to because of the following informalities:

On page 12, lines 10-13 of the Specification, the copy source and the copy destination are referred to by the same volume number 115.

Appropriate correction is required.

Claim Objections

6. Claims 1-20 are objected to because of the following informalities:

The text of the claims are too crowded together which makes it hard to read. For example, page 33, claim 1, line 18. Appropriate correction is required.

In claim 1, the term "in" in line 24 should be written as "an".

In claim 8, the "," (comma) between "lists" and "from" should be omitted.

In claim 12, the term "for a volume" should be written as – "to a volume"

In claim 13, the letter "s" in line 13 should be written as "a".

As per claim 1, 2, 6-14, 16, 17, 19, and 20, Examiner was not able to determine the subject matter which applicant regards as the invention. For example, in claim 1, the phrase, "the first volume being a copy source or a copy destination of a volume pair as a remote copy target in the disk subsystems" in lines 7-9. The indicated phrases did not particularly point out if the "the first volume as a remote copy target" or "a volume pair as a remote copy target". The phrase can be written as "the first volume being a

copy source or copy destination of a volume pair, wherein the volume pair is a remote copy target in the disk subsystems”.

Claim 1 is unclear and it is hard to understand and determine the scope of the claim invention; lines 6-12 of claim 1 can be re-written in the following format to particularly point out the claimed invention.

“based on a volume pair list, obtaining an identifier of a first disk subsystem of a first volume for a host connected to at least one of the disk subsystems;

said volume pair list is used for registering an identifier of the first volume and an identifier of the first disk subsystem of the first volume;

said first volume being a copy source or copy destination of a volume pair;
wherein the volume pair is a remote copy target in the disk subsystems”

Similar deficiency can be found in the subsequence claims.

All dependent claims are objected as having the same deficiencies as the claims they depend from.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 12 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

(a) the limitation "a remote copy target volume pair" on line 6 is not disclosed in the Specification.

(b) the phrase "a list of all designated volume pairs for registering one and/or a plurality of the identifiers of the first volume and the adapter" on lines 8-9 is not disclosed in the disclosure in such a way to enable Examiner to understand the scope of the invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors making it difficult to determine the scope of the claim.

As per claim 13, the phrase, "a second route information additionally having an identifier of the second disk controller in the first route information". Indicated phrase is

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indefinite since it does not particularly pointed out or showing the correlation between "an identifier of the second disk controller" with "the first route information". Only the first route information was sent to the second disk controller, therefore it would not be clear on how to transmit to the first controller a second route information having an identifier of the second disk controller in the first route information.

Examiner respectfully request the applicant to re-write the claim language in a proper format including punctuations and transitional phrases such as "wherein" or "which" in order to enable one in the art to understand and make use of a complete and operative invention while all of the limitations are supported by the Specification. Please further seeing claims 12 and 13 that being rejected under 35 U.S.C. 112 as a reference to re-write the claim language.

All dependent claims are rejected as having the same deficiencies as the claims they depend from.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 12 is rejected under 35 U.S.C. 102(b) as being unpatentable by Yanai et al. (US 6,173,377).

As per claim 12, Yanai et al. discloses a method for transmitting a command for a volume in a disk controller, comprising the steps of:

extracting all volume pairs (col. 17, lines 10-14, identifies/extracting or reading the volume pair) having at least one different identifier (col. 17, line 10, configuration information is equivalent to the identifier) of an adapter (Fig. 1, item 30) of a first volume (Fig. 1, item 20 or 66) as a copy source (Fig. 1, item 14) or a copy destination (Fig. 1, item 46) of a remote copy target volume pair (Fig. 12, items 291 and 296 and col. 45, lines 31) in the disk controller (Fig. 4, items 231), from a list of all designated volume pairs (Fig. 12, items 291-294) for registering one and/or a plurality of the identifiers of the first volume and the adapter (col. 17, lines 8-12, wherein the configuration information or identifiers are being stored or registered); and

issuing a command for forming a logical path between two adapters included in the extracted volume pair. See Fig. 12, items 240-241 (communication paths), Fig. 4 items 231 (adapters), and col. 5, lines 43-50. *Logical path has to be exist in Yanai et al. system since the system of Yanai et al. is a software controlled which the communication link between the two mirror pairs comprising a logical path through a physical link.*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claim 13 is rejected under 35 U.S.C. 102(e) as being unpatentable by Martin (US 2004/0081096).

As per claim 13, Martin discloses a command transmitting method of a volume in a disk controller, comprising the steps of:

transmitting first route information including an identifier of a first disk controller [[for]] to a second disk controller, wherein the second disk controller having a logical path to the first disk controller; transmitting, to the first disk controller, a second route information additionally having an identifier of the second disk controller in the first route information, by the second disk controller which receives the first route information; and adding the first and second route information to a route list in the first disk controller by the first disk controller which receives the second route information.

See page 9, claim 22, wherein the communication between the controller circuits and the storages are through a Fibre Channel ports; therefore, there has to be a communication method wherein the controllers and the storages are sharing the configuration information and identifier to indicate the path or the route so that when the data is being transferred in respond to a request it will not transmitted to a wrong

destination. In addition, there has to be a list of route or path so that the command and request are being sent properly amongst the storage devices.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Honda et al. (US 2002/0178328) in view of Foster et al. (US 2004/0004966).

As per claim 15, Honda et al. discloses a command path control method of a disk controller, comprising the steps of:

receiving a remote copy command with a transmittal function (page 12, paragraph 0221);

holding, from a first disk controller, route information indicating a route of an identifier of a second disk controller which can transmit the remote copy command (page 12, paragraph 0024);

inquiring an identifier of the first disk controller with an identifier of a third disk controller including a volume as a transmittal destination of the remote copy command (page 12, paragraph 0226, wherein 1-N is equivalent to the third storage device which comprises a controller);

obtaining, from the route information, the route information including the identifier of the third disk controller including the volume as the transmittal destination of the remote copy command; and


Honda et al. did not explicitly disclose the method of routing the communication amongst the disk storages. However, Foster et al. discloses a method of routing the data communication amongst the nodes that comprise storage devices by using the identifiers, translation table map/route list in order to forward and transferring the data to an appropriate destination (page 8, paragraph 0049, its entirety). It would have been obvious to one having an ordinary skill in the art at the time of the Applicant's invention to recognize that it is advantageous to combine the invention of Foster et al. and Honda et al. to arrive at an efficient communication method among different storage devices while avoiding any data redundancy by transmitting to a wrong destination or one destination more than once.

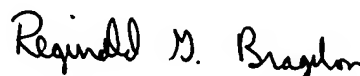
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh D. Vo whose telephone number is (571) 272-0708. The examiner can normally be reached on M-F 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Reginald G. Bragdon can be reached on (571) 272-4204. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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